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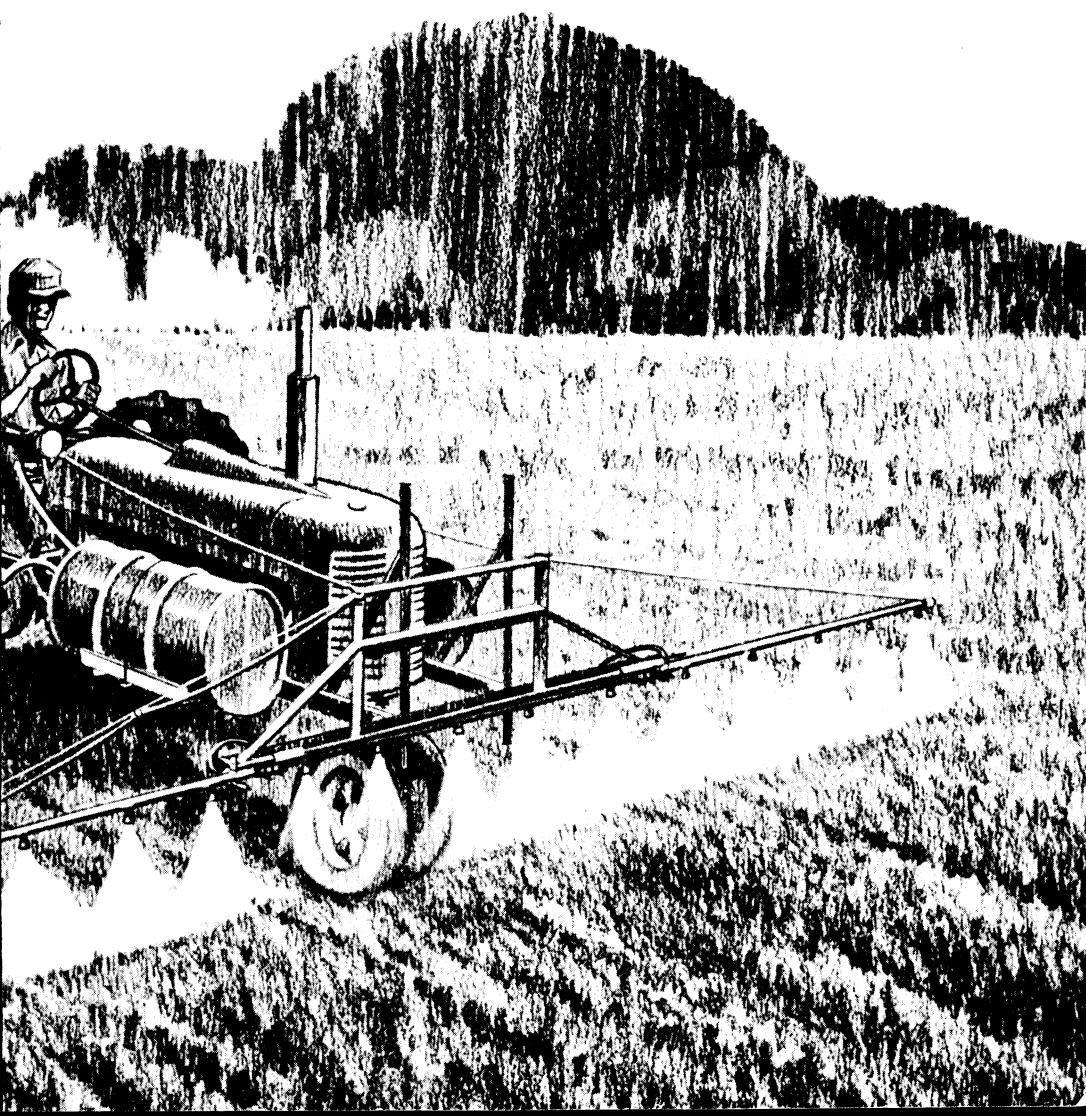
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USING PHENOXY HERBICIDES EFFECTIVELY

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The Federal registration for the use of 2,4,5-T around the home, near lakes, ponds, on ditchbanks and on food crops has been canceled. The inclusion of 2,4,5-T or any other herbicide in this publication does not suggest uses other than those covered by Federal registrations.

This bulletin supersedes Farmers' Bulletin 2005, "Using 2,4-D Safely."

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USING PHENOXY HERBICIDES EFFECTIVELY

2,4-D, 2,4,5-T, MCPA, Silvex, 2,4-DB

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Phenoxy herbicides—chiefly 2,4-D, 2,4,5-T,¹ silvex, MCPA, and 2,4-DB—are used widely. They are used for controlling weeds in many crops, on grazing lands, on lawns, and for killing unwanted brush and trees. These herbicides are registered for use and are especially useful because—

- They are selective; they kill most broadleaf plants but do not kill grasses or grain crops.
- They are potent; many species of weeds are controlled by less than 1 pound of active ingredient per acre.
- They are easy to use.
- They are not poisonous to man, domestic animals, or game when applied at the recommended rates.
- They do not accumulate in the soil and they have no harmful effects on soil organisms.
- They are not corrosive to spraying equipment.

HOW PLANTS REACT

When sprayed with phenoxy herbicides, leaves, green stems, twigs, flowers, and fruits usually

absorb the herbicides. Roots absorb the herbicides sprayed on the soil. When they are applied to growing plants or to the soil, phenoxy herbicides rapidly become distributed in the leaves, stems, and roots and cause susceptible plants to die.

These herbicides are absorbed most readily by plants that are growing rapidly. Annual weeds are easiest to kill when they are young. Perennial weeds are easy to kill while they are seedlings; after they are established, most perennials are easiest to kill at the time flower buds appear.

Some broadleaf weeds are killed by very small amounts of phenoxy herbicides. Some are almost unaffected by very large amounts.

The charts on pages 11 to 24 lists the susceptibility of many common weeds and woody plants to control by 2,4-D, 2,4,5-T,¹ MCPA, silvex, and 2,4-DB.

SALTS AND ESTERS

Phenoxy herbicides are usually formulated as acids, salts, and esters. Salt and ester formulations usually are supplied as liquid concentrates. The purchaser dilutes them before use. The salt con-

¹ See limitation on use of 2,4,5-T on inside cover.

concentrates form solutions when mixed with water. The ester concentrates form solutions when mixed with oil; they form milky-white emulsions when mixed with water.

Vapors from ester formulations can kill susceptible plants growing near the area to which the formulations are applied. Heat causes ester formulations to release vapors. Low-volatile esters vaporize at much slower rates than high-volatile esters. At temperatures below 90° F. there is significant hazard from vapors of high-volatile esters but only slight hazard from low-volatile ones. At high temperatures above 90° F. vapors from low-volatile esters are also a hazard to susceptible plants growing nearby. Nevertheless, the low-volatile esters main-

tain a relative margin of safety at higher temperatures. They are less likely to harm susceptible crops.

Salt formulations are safest. Generally, they do not release enough vapors to cause damage. Most of them are less expensive than esters.

High-volatile esters are usually less expensive than low-volatile esters and they can be used effectively and with moderate safety only if no susceptible crops are growing in the vicinity.

Ester formulations of the phenoxy herbicides are generally more potent, pound for pound, than salts. They penetrate leaves and other plant surfaces more readily than salts. When a range of rates is recommended for herbicide application, use the lower



BN-13721-X

Weeds in this field of small grain (treated part at right) were controlled with 2,4-D. The herbicide costs less than 50 cents per acre.

rate for esters and the higher rate for salts.

Esters are more effective than salts for killing weeds that are growing slowly because of drought or cold weather. Esters usually are best for treating weeds in areas of low humidity; esters are formulated in oils and remain in moist contact on foliage longer and penetrate better than salts, which are mixed with water. And, because they are oily, esters are less likely than salts to be washed off foliage if rain falls soon after their application.

“ACID EQUIVALENT”

Phenoxy herbicide concentrates are available in various strengths. The amount of active ingredient in the concentrate is indicated on the container label as the number of pounds of “acid equivalent” in each gallon of concentrate.

Usually the strongest concentrates are the most economical to use; they usually cost less per pound of acid equivalent than weaker concentrates. For example, 1 gallon of a 2,4-D concentrate containing 4 pounds of acid equivalent per gallon usually will cost less than 4 gallons of concentrate containing 1 pound of acid equivalent per gallon, and it contains the same amount of active ingredient.

APPLICATION

General Principles

If phenoxy herbicides are applied carefully they can save you

money and labor. If they are applied carelessly, they can kill your crops.

Some crops and ornamental plants are extremely sensitive to phenoxy herbicides; they are severely injured or killed by small traces of the herbicides, such as spray drift or vapors.

The most sensitive of the crops and ornamental plants include cotton, grapes, tomatoes, cucumbers, tobacco, mimosa, roses, and dogwood. For more information about sensitivity of your crops to phenoxy herbicides, ask your county agricultural agent.

When using phenoxy herbicides near sensitive plants, observe all precautions regarding vapors, spray drift, and cleanliness of equipment.

Types of Phenoxy Herbicides Commonly Available

SALTS, such as:

Amine (triethanolamine, diethanolamine, trimethylamine, diethylamine, dimethylamine and isopropanolamine.

Sodium
Potassium
Ammonium

ESTERS

High-Volatile, such as:

Ethyl
Isopropyl
Butyl
Amyl

Low-Volatile, such as:

Butoxyethanol
Butoxyethoxypropanol
Ethoxyethoxypropanol
Isooctyl
Propylene glycol butyl ether

For safe and effective control of weeds—

- Get professional advice before applying herbicides; ask your county agricultural agent, your State extension weed specialist, or other local agricultural authorities for weed-control recommendations.

- Use herbicides wisely: Follow label precautions. Do not apply herbicides for any use for which they are not registered.

- Avoid spraying on windy days.

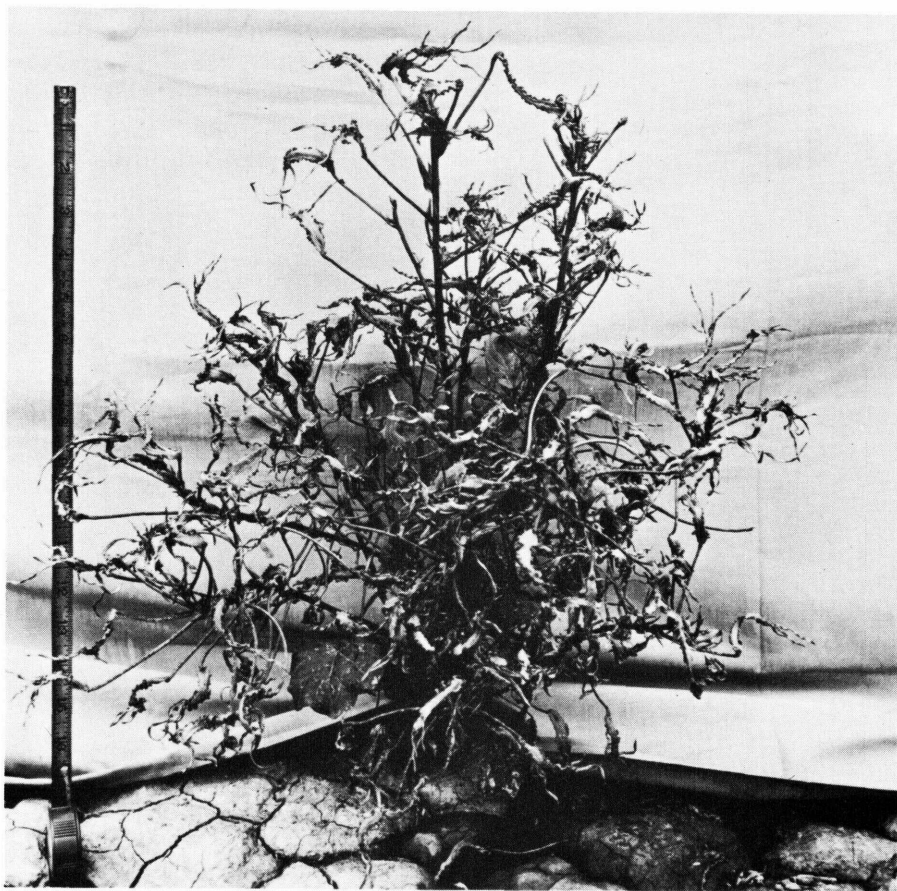
- Do not apply ester formulations when the temperature is above 90°.

- Check output of your sprayer frequently to prevent over-application of herbicides.

- Avoid sprayer skips or overlapping swaths.

- Clean spray equipment immediately after use.

- Before using spray equip-



BN-13680-X

Cotton is extremely susceptible to phenoxy herbicides. This plant was killed when it was accidentally sprayed with 2,4-D

ment for applying insecticides or fungicides to crops, test it for injurious traces of herbicides.

Methods

Cropland

You can apply herbicides on cropland as preemergence sprays (after the crop is planted but before it or the weeds come up) or as postemergence sprays (after the crop and weeds come up).

Most modern spray equipment is designed for low-volume application—from about 5 to about 20 gallons of spray per acre. With the proper attachments, low-volume equipment can be used for broadcast spraying, band treatments, or directed spraying.

Apply a broadcast spray if the crop plants are not sensitive to the herbicide.

For broadcast application, the spray rig is equipped with a multiple-nozzle boom or a single boomless nozzle.

Apply a directed spray if the crop plants are somewhat sensitive to the herbicide.

For directed application, the rig is equipped with a boom and drop nozzles, which are adjusted to spray the weeds but no more than the bases of the crop plants.

Airplanes often are used for spraying crops, especially non-row crops, such as small grains, rice, and grazing lands.

Noncropland

Use a ground sprayer with boom to apply low-volume broad-

cast spray for the control of weeds, brush, and trees on grazing land and on irrigation canal banks.

Airplanes often are used for applying low-volume broadcast sprays to noncropland areas that are too large, too rough, or have too many obstructions for ground equipment.

Apply high-volume directed spray to kill brush and trees

Spray Drift

Wind-carried droplets of phenoxo herbicides may kill susceptible crops near the area that is being treated.

To reduce the danger of damaging crops with spray drift—

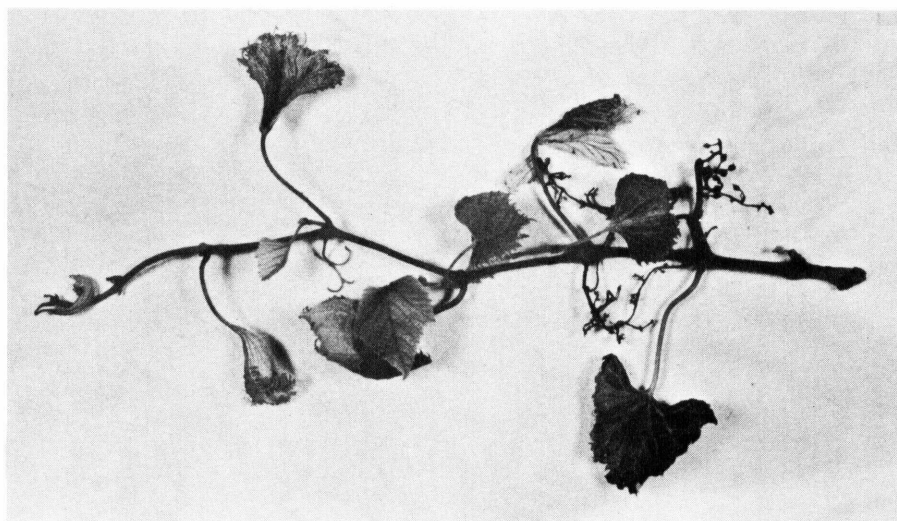
- Use nozzles that apply a coarse spray.

- Use low pressures—no more than 35 pounds per square inch for boom sprayers, 100 pounds for spray guns.

- Avoid spraying on windy days; do not spray with ground equipment or from airplanes when the wind velocity is sufficient to cause drifts to sensitive crops.

- Spray when wind is blowing away from susceptible crops and toward the area being sprayed.

- Where special drift hazards exist, use one of the special drift-control agents or formulations in properly designed and adjusted equipment. Get professional advice before using these.



BN-13679-X

Spray drift from a nearby application of phenoxy herbicide severely injured this Concord grape vine.

along roads, utility lines, and fencerows, and aquatic weeds and brush along irrigation and drainage canals.

Equipment for high-volume spraying usually has a large-capacity spray tank (over 100 gallons per acre of spray may be used) and operates at relatively high pressure (about 60 to 100 pounds per square inch). The rig usually is equipped with a spray hose and adjustable nozzle. The spray often is applied as a drench that thoroughly wets the leaves and stems of the plants that are to be killed.

Apply sprays of ester formulations in diesel oil or kerosene to the bark at the base of small trees or to cuts in the bark at the base of large trees.

Phenoxy ester formulations with oil as a carrier can be ab-

sorbed by the bark at the base of trees with trunk diameters up to about 4 inches. The spray usually is applied with a small hand-operated sprayer and the lower 6 to 12 inches of bark on the trunk is thoroughly wetted with the solution.

The bark of many trees that are over 4 inches in diameter is too thick for the spray to penetrate. To kill these larger trees, it is necessary to ring the base of the tree with ax cuts and spray the ester or amine solution into the cuts. The ax cuts must go through the bark and into the sapwood.

TESTING OUTPUT OF SPRAYER

Before mixing or applying herbicides on cropland, check the output of your spray equipment. If you apply too little herbicide, it is

ineffective. If you apply too much, it may kill your crops.

In the test, the tractor speed and the pump pressure should be the same as they will be when you apply herbicide. If your tractor is not equipped with a speedometer, it is a good idea to make the test on the same type of terrain that you plan to spray and to mark the throttle setting that you use.

To test the output—

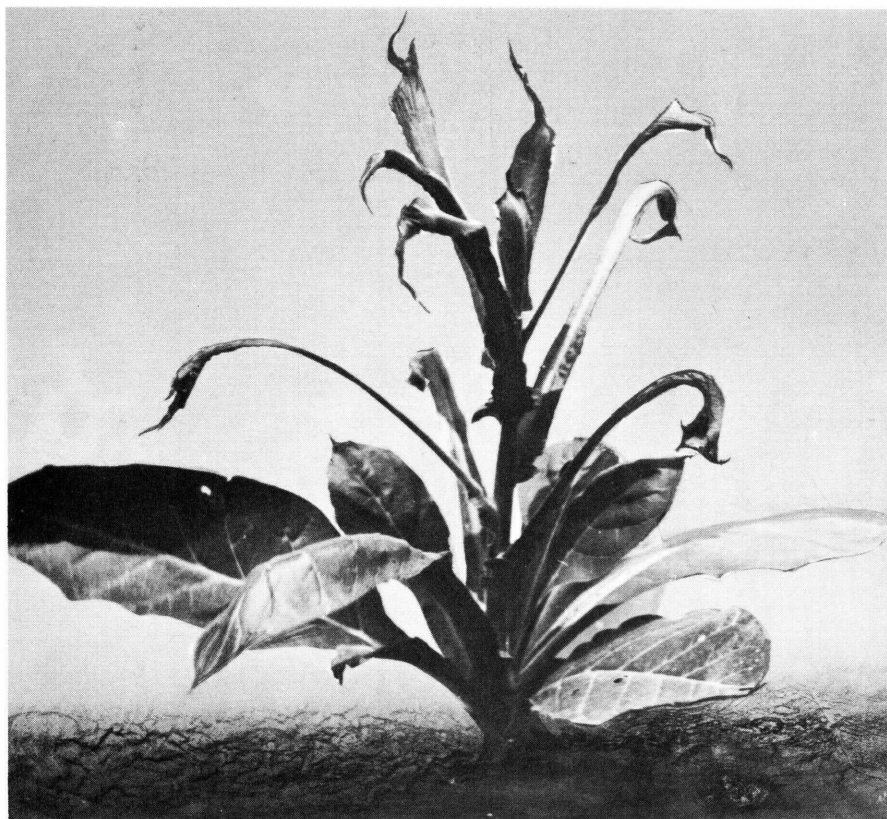
- Fill the spray tank with water.

- Spray a strip exactly 220 yards long.

- At the end of 220 yards, stop spraying and measure, in quarts, the amount of water needed to re-fill the spray tank.

To determine the spray output in gallons per acre, multiply the number of quarts by 16.5 and divide the answer by the width, in feet, of the spray strip.

Example: Your spray rig treats a strip 20 feet wide. At operating speed and pressure, the rig uses



BN-13681-X

This equipment used to apply insecticide to this tobacco plant had been used previously for applying phenoxy herbicide. The tobacco was injured by herbicide traces that remained in the sprayer.

6 quarts of water in 220 yards:

$$6 \times 16.5 = 99.$$

$99 \div 20 = 4.95$, or about 5 gallons of spray per acre.

The output of the sprayer is for the area treated. If your sprayer is adjusted to apply spray in bands to row crops, calculate the total width of the spray pattern. To do this, multiply the number of nozzles by the width that each nozzle treats.

If you are using 6 drop nozzles and each treats a 20-inch width, then the total width of the spray pattern is 10 feet, regardless of the nozzle spacing.

Output of the spray equipment may change because of enlarged nozzle orifices or worn parts in the pump. Check the output pe-

riodically to prevent application at the wrong rate.

After you know the output of your sprayer, you can mix the spray accurately. To calculate the total amount of spray needed, multiply the area to be sprayed, in acres, by the output per acre. Add the recommended amount of acid equivalent—in the form of herbicide concentrate—to enough carrier (water or oil) to equal the total amount of spray needed.

For example: The calculated output is 5 gallons per acre and you plan to spray 10 acres at a recommended rate of 1 pound of acid equivalent per acre. Therefore you will need a total of 50 gallons of spray containing 10 pounds of acid equivalent.

The herbicide concentrate con-



BN-11740-X

The right half of this field was sprayed with 2,4-D before the corn or weeds emerged. The left half of the field was not treated.

PRECAUTIONS

Phenoxy herbicides are safe when stored, handled, mixed, and used in accordance with label instructions and sound agricultural practices. Most herbicides are low in toxicity. However, some can cause injury to man, many domestic animals, and fish and wildlife if improperly used.

Most herbicides are toxic to many crop plants and ornamentals. Many are volatile and their vapors and spray drift will cause damage to desirable plants. Avoid spraying when windy conditions exist.

Keep herbicides away from children, livestock, and pets. Store herbicides in closed, well-labeled containers in a dry place where they cannot contaminate food, feed, or water.

When handling herbicides wear clean, dry clothing. Launder clothing after each spraying operation before wearing again.

Do not inhale herbicides and avoid contact with spray mist and drift. Avoid repeated or prolonged contact of herbicide with your skin. Avoid spilling it on any part of your body—especially your eyes, nose, and mouth. If you spill it on your body, wash it off with soap and water and remove contaminated clothing.

To protect fish, wildlife, and livestock, do not clean spraying equipment or dump excess spray material near lakes, streams, or ponds.

Empty herbicide containers may be hazardous. Dispose of them in accordance with label instructions and the recommendations of your State Extension weed science specialist or other local agricultural authorities. Do not burn herbicide containers.

tains 4 pounds of acid equivalent per gallon. Add $2\frac{1}{2}$ gallons of concentrate (10 pounds total acid equivalent) to $47\frac{1}{2}$ gallons of water.

CLEANING SPRAY EQUIPMENT

Clean your spray equipment immediately after using it for applying herbicides.

Some crops can be damaged or

killed by traces of phenoxy herbicides that are left in the sprayer after cleaning. Before applying fungicides or insecticides to crops with equipment that has been used for herbicides, test the equipment for herbicide traces.

Fill the tank with water and spray a few of the crop plants. Sensitive plants such as tomato, cotton, and tobacco are good test plants. Wait a day or two after spraying. If the crop plants show

no distorted growth after this period, the equipment can be used safely for spraying the crop. If the plants are distorted, then clean the spray equipment again. Retest the equipment for cleanliness before using it on crops.

For greatest safety with sensitive crops, apply fungicides or insecticides with equipment that has not been used for applying herbicides.

You can clean spray equipment quickly with a suspension of activated charcoal in water. Use at least one-third of a tank of water. For each 10 gallons of water add $\frac{1}{4}$ pound of activated charcoal and $\frac{1}{8}$ to $\frac{1}{4}$ pound of laundry detergent. Agitate this mixture vigorously to distribute the charcoal through the water.

Wash the equipment for 2 minutes by swirling the liquid around in the tank so that it reaches all parts of the tank. Pump some of the liquid through the hose and nozzles. Then drain the tank and

rinse the equipment with clean water.

SUSCEPTIBILITY CHART

The chart that follows lists the effects of phenoxy herbicides when applied as foliage sprays on a number of common weeds. Rate of application for 2,4-D, 2,4,5-T,² MCPA, or silvex is 1 pound per acre; rate of application for 2,4-DB is 2 pounds per acre.

The control ratings for the herbicides are interpreted as follows: Excellent.—One application at rate kills the weed.

Good.—Several applications at rate needed to kill the weed.

Fair.—Repeated applications at rate or application at higher rates needed to kill the weed.

Poor.—Weed kill is erratic, even at high rates of application.

None.—No visible effect.

² See limitation on use of 2,4,5-T on inside cover.

Susceptibility of common weeds to control by 2,4-D, MCPA, 2,4,5-T, silver, and 2,4-DB

Plant name	Type of plant	Control ¹				
		2,4-D	MCPA	2,4,5-T ²	Silver	2,4-DB
Alder (<i>Alnus</i> spp.)	Woody	Good	Good	Excellent	Excellent	
Alligatorweed (<i>Alternanthera philoxeroides</i>)	Perennial	Poor	None	Fair	Fair	
Alyssum, hoary (<i>Berteroa incana</i>)	Perennial ³	Fair	Fair	Excellent		Poor.
Amaranth:						
Green (<i>Amaranthus hybridus</i>)	Annual	Excellent	Excellent	do.		Excellent.
Palmer (<i>A. palmert</i>)	do.	do.	do.	do.	Excellent	
See also Pigweed.						
Arrowgrass, seaside (<i>Triglochin maritima</i>)	Perennial	Fair		Fair		
Arrowhead:						
Annual (<i>Sagittaria calycina</i>)	Annual	Excellent	Excellent	Excellent	Excellent	Do.
Perennial (<i>S. longiloba</i>)	Perennial	Fair	Fair	Poor		
Ash (<i>Fraxinus</i> spp.)	Woody	None	None	do.	Poor	None.
Aster:						
Many-flowered (<i>Aster ericoides</i>)	Perennial	Good				
Western (<i>A. occidentalis</i>)	do.	Poor		Poor		Do.
White heath (<i>A. pilosus</i>)	do.	Fair		Fair	Fair	Do.
Woody (<i>Xylorhiza parryi</i>)	do.	Poor	None	Poor	Poor	
Baccharis, coyote brush (<i>Baccharis salicina</i>)	Woody	Excellent				
Baileya, desert (<i>Baileya multiradiata</i>)	Perennial	Good		Good		
Bassia, five-hook (<i>Bassia hyssopifolia</i>)	Annual	Fair				
Cornflower:						
Batchelor's button (<i>Centaurea cyanus</i>)	do.	Excellent				
Bedstraw:						
Cleavers (<i>Galium aparine</i>)	do.	Poor	None	Poor	Good	Do.
Smooth (<i>G. mollugo</i>)	Perennial	None	do.	do.	do.	Do.
Beeplant, Rocky Mountain (<i>Cleome serrulata</i>)	Annual	Fair				
Beggartick, devils (<i>Bidens frondosa</i>)	do.	Excellent	Excellent	Excellent		
Florida betony (<i>Stachys floridana</i>)	Perennial	Poor		Poor		
Bindweed:						
Field (<i>Convolvulus arvensis</i>)	do.	Fair	Fair	Fair	Fair	Fair.
Hedge (<i>C. sepium</i>)	do.	Good	Good	Good		
Biscuitroot (<i>Lomatium leptocarpum</i>)	do.	Fair		do.		

See footnotes at end of table.

Susceptibility of common weeds to control by 2,4-D, MCPA, 2,4,5-T, silver, and 2,4-DB—Continued

Plant name	Type of plant	Control ¹				
		2,4-D	MCPA	2,4,5-T ²	Silverx	2,4-DB
Bistort, American (<i>Polygonum bistortoides</i>)	do	do		Fair		None.
Blackberry (<i>Rubus</i> spp.)	Woody	None	None	Good	Fair	Do.
Blackeyed susan (<i>Rudbeckia serotina</i>)	Perennial	Good		do	Excellent	
Bloodweed (<i>Ambrosia aptera</i>)	Annual	Excellent		Excellent		
Blueweed, Texas (<i>Helianthus ciliaris</i>)	Perennial	Fair				
Bouncingbet (<i>Saponaria officinalis</i>)	do	Poor	None	Poor	Poor	Do.
Boxelder (<i>Acer negundo</i>)	Woody	Good		Good	Good	
Bracken (<i>Pteridium aquilinum</i>)	Perennial	None	None	None	None	Do.
Broomweed, common (<i>Gutierrezia dracunculoides</i>)	Annual	Good		Good	Good	
Broom, Scotch (<i>Cytisus scoparius</i>)	Woody	do		do	None	
Buckeye, California (<i>Aesculus californica</i>)	do	Fair		Poor		
Buckwheat:						
Tartary (<i>Fagopyrum tataricum</i>)	Annual	Poor	Excellent	Fair		Good.
Wild (<i>F. convolvulus</i>)	do	Fair	Fair	Good	Fair	
Buffalobur (<i>Solanum rostratum</i>)	do	None	None	None		
Bulrush (<i>Scirpus</i> spp.)	Perennial	Fair	Fair	Fair	Fair	None.
Burdock, common (<i>Arctium minus</i>)	Biennial	Excellent	Excellent	Excellent	Excellent	Excellent.
Bur-head (<i>Echinodorus cordifolius</i>)	Annual	do	do	do	do	
Buckbrush (<i>Symphoricarpos orbiculatus</i>)	Woody	Good		Fair	None	
Western (<i>S. occidentalis</i>)	do	Fair	None	Poor		
Bullnettle (<i>Cnidocolus stimulosus</i>)	Perennial	Good	Fair	Good		
Burroweed (<i>Haplopappus tenuisectus</i>)	do	do		Excellent		
Buttercup:						
Celery leaf (<i>Ranunculus sceleratus</i>)	Annual	Fair				Excellent.
Corn (<i>R. arvensis</i>)	do	Good	Excellent	Excellent	Excellent	Good.
Creeping (<i>R. repens</i>)	Perennial	do	do	do	do	Excellent.
Tall (<i>R. acris</i>)	do	do	do	do	do	None.
Campion, bladder (<i>Silene cucubalus</i>)	do	None	None	None	None	Excellent.
Carpetweed (<i>Mollugo verticillata</i>)	Annual	Excellent		do	do	Excellent.
Carrot, wild (<i>Daucus carota</i>)	Biennial	Fair	Fair	Fair	Fair	Fair.
Catchfly, night flowering (<i>Silene noctiflora</i>)	Annual	None	None	None	None	None.

Catsear, spotted (<i>Hypochoeris radicata</i>)	Perennial	Good	Excellent	Excellent	Excellent	Excellent
Catnip (<i>Nepeta cataria</i>)	do	do		do		
Cattail:						
Broadleaf (<i>Typha latifolia</i>)	do	Fair	Poor	Fair	Fair	Poor.
Narrowleaf (<i>T. angustifolia</i>)	do	do	do	do	do	Do.
Ceanothus (<i>Ceanothus</i> spp.)	Woody	do	Fair	Good	Fair	Fair.
Wedgeleaf (<i>C. cuneatus</i>)	do	Good	do	Excellent		
Chamise (<i>Adenostoma fasciculatum</i>)	do	Fair	Poor	Fair	Poor	Poor.
Chickweed:						
Common (<i>Stellaria media</i>)	Annual	do	do	Good	Excellent	Fair.
Field (<i>Cerastium arvense</i>)	Perennial	do	do	do	do	Poor.
Mousser (<i>C. vulgatum</i>)	do	do	do	do	do	Do.
Chicory (<i>Cichorium intybus</i>)	Perennial	Good	Good	Good	Good	Fair.
Chockcherry (<i>Prunus virginiana</i>)	Woody	Poor		Fair	Fair	None.
Cinquefoil:						
Blueleaf (<i>Potentilla diversifolia</i>)	Perennial	Fair		do		Do.
Common (<i>P. canadensis</i>)	do	Good	Fair	do	Fair	
Rough (<i>P. norvegica</i>)	Annual ³	Excellent		do		
Sulfur (<i>P. recta</i>)	Perennial	Good	Fair	Good	Fair	
Cockle:						
Corn (<i>Agrostemma githago</i>)	Annual ³	Poor	Poor	None	None	None.
White (<i>Lychnis alba</i>)	Perennial	do	None	do	do	Do.
Cocklebur, common (<i>Xanthium pensylvanicum</i>)	Annual	Excellent	Fair	Excellent		Good.
Coffeeweed (<i>Daubentonia texana</i>)	Woody	do		do	Good	
Coyote brush (<i>Baccharis pilularis</i>)	do	Good		Fair		
Coyotillo (<i>Karwinskia humboldtiana</i>)	Perennial			Excellent	Excellent	
Cranebill, cutleaf (<i>Geranium dissectum</i>)	Annual ³		Excellent			
Cress, hoary (<i>Cardaria draba</i>)	Perennial	Fair	Fair	Fair	Fair	Fair.
Croton:						
Lindheimer (<i>Croton lindheimeri</i>)	Annual	Excellent	Excellent	Good	Good	Good.
Texas (<i>C. texensis</i>)	do	do		Excellent	Excellent	Excellent.
Wolly (<i>C. capitatus</i>)	do	do		do	do	
Burcucumber (<i>Sicyos angulatus</i>)	do	Fair	Excellent			
Cudweed (<i>Gnaphalium peregrinum</i>)	Annual	None				
Daisy, oxeye (<i>Chrysanthemum leucanthemum</i>)	Perennial	Fair	Fair	Good	Fair	Fair.
Dandelion (<i>Taraxacum officinale</i>)	do	Excellent	Excellent	Excellent	Excellent	None.
Deadnettle, red (<i>Lamium purpureum</i>)	Annual ³	Poor	Poor	do	do	Good.
Deathcarnas (<i>Zigadenus gramineus</i>)	Perennial	Fair		Poor	Fair	Poor.
Foothill (<i>Z. paniculatus</i>)	do	Good		Fair		

See footnotes at end of table.

Susceptibility of common weeds to control by 2,4-D, MCPA, 2,4,5-T, silver, and 2,4-DB—Continued

Plant name	Type of plant	Control ¹			
		2,4-D	MCPA	2,4,5-T ²	Silverx
Deerweed (<i>Lotus scoparius</i>)	Woody	Excellent		Excellent	
Devil's claw (<i>Proboscidea louisianica</i>)	Annual	do			
Dock:					
Broadleaf (<i>Rumex obtusifolius</i>)	Perennial	Good	Fair	Good	Fair
Curly (<i>R. crispus</i>)	do	do	do	do	Fair
Fiddle (<i>R. pulcher</i>)	do	Excellent			
Pale (<i>R. alissimus</i>)	do	Good	Good	Good	Poor
Veiny (<i>R. venosus</i>)	do	Fair			
Dodder:					
Largeseed (<i>Cuscuta indecora</i>)	Annual	Poor	None	None	None
Smallseed alfalfa (<i>C. pentagona</i>)	do	do	do	do	Do.
Duckweed, common (<i>Lemna minor</i>)	do	do			
Elm (<i>Ulmus</i> spp.)	do	do			
Eveningprimrose, common (<i>Oenothera biennis</i>)	Woody	do	None	Fair	Do.
Falseflax, smallseeded (<i>Camelina microcarpa</i>)	Biennial	Excellent		Good	
Fennel, dog (<i>Eupatorium capillifolium</i>)	Annual	do			
Fiddleneck, coast (<i>Amsinckia intermedia</i>)	do	Good		Excellent	Do.
Filaree, redstem (<i>Amsinckia intermedia</i>)	do	do	Fair	Good	Do.
Fireweed (<i>Epilobium angustifolium</i>)	Annual ³	Good			Poor.
Fleabane:	Perennial	do		Good	
Annual (<i>Erigeron annuus</i>)	Annual	Fair	Fair	do	Excellent.
Oregon (<i>E. speciosus</i>)	Perennial	do			
Rough (<i>E. strigosus</i>)	Annual ³	Good		Excellent	Good.
Flixweed (<i>Descurainia sophia</i>)	do	Excellent	Fair		
Franseria:					
Bur (<i>Franseria discolor</i>)	Perennial	Fair			
Woollyleaf (<i>F. tomentosa</i>)	do	do			
Galinsoga, hairy (<i>Galinsoga ciliata</i>)	Annual	Good	Poor	Poor	Poor.
Garlic, wild (<i>Allium vineale</i>)	Perennial	Fair	Excellent	Excellent	
Geranium, Carolina (<i>Geranium carolinianum</i>)	Perennial	do	Poor	Poor	None
Goatsrue (<i>Galaga officinalis</i>)	Annual ³	Good	Excellent	Good	Do.
Goldenrod (<i>Solidago</i> spp.)	Perennial	Fair			Excellent.
Gooseberry, sierra (<i>Ribes roezli</i>)	do	do			
	Woody	Excellent		Good	

Susceptibility of common weeds to control by 2,4-D, MCPA, 2,4,5-T, silvex, and 2,4-DB—Continued

Plant name	Type of plant	Control ¹				
		2,4-D	MCPA	2,4,5-T ²	Silvex	2,4-DB
Hogpeanut (<i>Amphicarpa bracteata</i>)	Perennial	Excellent	None	None	None	Do.
Hogpotato (<i>Hoffmanseggia densiflora</i>)	do	None	None	Fair	None	
Honey locust (<i>Gleditsia triacanthos</i>)	Woody	Poor	None	Good	Good	
Honeysuckle (<i>Lonicera japonica</i>)	do	Fair	Excellent	Good		
Horsebrush, littleleaf (<i>Tetradymia glabrata</i>)	do	Poor	None	Poor		
Horsebottle, Carolina (<i>Solanum carolinense</i>)	Perennial	do	None	Fair		Poor.
Horsebush, field (<i>Equisetum arvense</i>)	do	do	Fair	Poor	Poor	
Horseweed, field (<i>Erigeron canadensis</i>)	Annual	Fair	do	Good	Good	Fair.
Houndstongue (<i>Eryngium officinale</i>)	Biennial	do	None	None		
Houndstongue (<i>Cynoglossum officinale</i>)	Perennial	Poor	None			
Indian-hemp (<i>Apocynum cannabinum</i>)	Annual	Fair				
Indian-tobacco (<i>Lobelia inflata</i>)	Perennial	do				
Iris, Rocky Mountain (<i>Iris missouriensis</i>)	do	Good		Poor	None	Poor.
Ironweed, Western (<i>Vernonia baldwini</i>)	do			Good		
Ivy, English (<i>Hedera helix</i>)	do			Excellent		
Jerusalem-artichoke (<i>Helianthus tuberosus</i>)	do	Good		do		
Jewelweed (<i>Impatiens pallida</i>)	Annual	Excellent				
Jimmyweed (<i>Haplopappus pluriflorus</i>)	Perennial	Fair		Fair		
Jimsonweed (<i>Datura stramonium</i>)	Annual	Good	Excellent	Good		Excellent.
Jointvetch, Northern (<i>Aeschynomene virginica</i>)	do	Fair	Fair	Excellent	Fair	None.
Juniper:						
Alligator (<i>Juniperus deppeana</i>)	Woody	None		None	None	Do.
One-seed (<i>J. monosperma</i>)	do	do		do	do	Do.
Utah (<i>J. osteosperma</i>)	do	Poor		Poor	do	Do.
Knapweed:						
Brown (<i>Centaurea jacea</i>)	Perennial	Fair				
Diffuse (<i>C. diffusa</i>)	Biennial	Excellent				
Russian (<i>C. repens</i>)	Perennial	Poor	None	Poor	Poor	Do.
Spotted (<i>C. maculosa</i>)	Biennial	Fair	Excellent	Fair	Good	Do.
Squarrose (<i>C. virgata</i> var. <i>squarrosa</i>)	Perennial	do				
Knapwel (<i>Scleranthus annuus</i>)	Annual	None	None			
Kochia (<i>Kochia scoparia</i>)	do	Excellent	Good	Excellent	Excellent	Excellent.

Knotweed:									
Japanese (<i>Polygonum cuspidatum</i>)	Perennial	Poor	Poor	Poor	do	Poor	do	Poor	Poor.
Prostrate (<i>P. aviculare</i>)	Annual	Fair	Fair	Fair	Fair	Fair	Fair	Fair	
Sachalin (<i>P. sachalinense</i>)	Perennial	Good	Good	Good	Good	Good	Good	Good	
Silversheath (<i>P. argyrocleon</i>)	Annual	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Excellent.
Kudzu (<i>Pueraria lobata</i>)	Perennial	do	do	do	do	do	do	do	Excellent.
Lambquarters, common (<i>Chenopodium album</i>)	Annual	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	
Larkspur:									
Little (<i>Delphinium bicolor</i>)	Perennial	None	None	None	None	None	None	None	None.
Menzies (<i>D. menziesii</i>)	do	Fair	Fair	Fair	Fair	Fair	Fair	Fair	
Tall (<i>D. barbeyi</i>)	do	None	None	None	None	None	None	None	None.
Dunecap (<i>D. occidentale</i>)	do	do	do	do	do	do	do	do	
Lettuce:									
Blue (<i>Lactuca pulchella</i>)	do	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Fair.
Wild (<i>L. scariola</i>)	Annual	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	
Loco, bigbend (<i>Astragalus eglei</i>)	Annual ³	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	
Locoweed, white (<i>Oxytropis lambertii</i>)	Perennial	Fair	Fair	Fair	Fair	Fair	Fair	Fair	
Locust, black (<i>Robinia pseudo-acacia</i>)	Woody	do	do	do	do	do	do	do	
London-rocket, annual (<i>Sisymbrium irio</i>)	Annual	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent.
London-rocket, perennial (<i>Franseria confertiflora</i>)	Perennial	None	None	None	None	None	None	None	None.
Lupine (<i>Lupinus rivularis</i>)	Woody	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	
Silvery (<i>L. argenteus</i>)	Perennial	Fair	Fair	Fair	Fair	Fair	Fair	Fair	Excellent.
Tailcup (<i>L. caudatus</i>)	do	Good	Good	Good	Good	Good	Good	Good	
Madrone (<i>Arbutus menziesii</i>)	Woody	Fair	Fair	Fair	Fair	Fair	Fair	Fair	
Mallow:									
Common (<i>Malva neglecta</i>)	Annual ³	Poor	Poor	Poor	Poor	Poor	Poor	Poor	
Dwarf (<i>M. rotundiflora</i>)	Perennial	Fair	Fair	Fair	Fair	Fair	Fair	Fair	
Little (<i>M. parviflora</i>)	Annual	do	do	do	do	do	do	do	
Venice (<i>Hibiscus trionum</i>)	do	Good	Good	Good	Good	Good	Good	Good	
Manzanita (<i>Arctostaphylos</i> spp.)	Woody	do	do	do	do	do	do	do	Poor.
Maples (<i>Acer</i> spp.)	do	Poor	Poor	Poor	Poor	Poor	Poor	Poor	None.
Marshelder (<i>Iva xanthifolia</i>)	Annual	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent.
Mayweed, dogfennel (<i>Anthemis cotula</i>)	do	Fair	Fair	Fair	Fair	Fair	Fair	Fair	None.
Medic, Black (<i>Medicago lupulina</i>)	do	do	do	do	do	do	do	do	Poor.
Mesquite:									
Honey (<i>Prosopis juliflora</i> var. <i>glandulosa</i>)	Woody	Poor	Poor	Poor	Poor	Poor	Poor	Poor	Fair.
Velvet (<i>P. juliflora</i> var. <i>velutina</i>)	do	None	None	None	None	None	None	None	None.
Mexicanet (<i>Chenopodium ambrosioides</i>)	Annual	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent.
Mexican weed (<i>Caperonia castaneaefolia</i>)	do	Fair	Fair	Fair	Fair	Fair	Fair	Fair	None.

See footnotes at end of table.

Susceptibility of common weeds to control by 2,4-D, MCPA, 2,4,5-T, silver, and 2,4-DB—Continued

Plant name	Type of plant	Control ¹				
		2,4-D	MCPA	2,4,5-T ²	Silver	2,4-DB
Milkweed (<i>Asclepias curassavica</i>)	Perennial	Good		Excellent	Fair	Do.
Broadleaf (<i>A. latifolia</i>)	do	Fair			do	Do.
Common (<i>A. syriaca</i>)	do	None	None	Poor	do	Do.
Showy (<i>A. speciosa</i>)	do	do	do	do	Good	Do.
Eastern whorled (<i>A. verticillata</i>)	do	do	do	do		Poor.
Mimosa, catclaw (<i>Mimosa biuncifera</i>)	Woody					
Moneypwort (<i>Lysimachia nummularia</i>)	Perennial	Excellent				
Morningglory:						
Common (<i>Ipomoea purpurea</i>)	Annual	do		Excellent		Excellent.
Ivyleaf (<i>I. hederacea</i>)	do	do		do		Do.
Woolly (<i>I. hirsutula</i>)	do	do	Excellent	do	Excellent	
Mountain Mahogany (<i>Cercocarpus montanus</i>)	Woody			Poor		Poor.
Mudplantain (<i>Heteranthera limosa</i>)	Annual	Excellent	Good	Good	Good	Fair.
Mugwort (<i>Artemisia vulgaris</i>)	Perennial	Poor	None	None		
Mulberry (<i>Morus</i> spp.)	Woody	None		Poor	Fair	
Mulsears (<i>Wyethia amplexicaulis</i>)	Perennial	Good		Good		
Mullein:						
Common (<i>Verbascum thapsus</i>)	Biennial	Poor	Poor	Fair		None.
Moth (<i>V. blattaria</i>)	Perennial	Fair		do		
Mustard:						
Black (<i>Brassica nigra</i>)	Annual	Excellent	Excellent	Excellent	Good	Excellent.
Blue (<i>Chorispora tenella</i>)	do	Fair	Poor	Good	do	None.
Haresear (<i>Conringia orientalis</i>)	do	Excellent	Good			
Hedge (<i>Sisymbrium officinale</i>)	do	do	Excellent	Excellent	Excellent	Excellent.
Indian (<i>Brassica juncea</i>)	do	do	do	do	Good	Do.
Tumble (<i>Sisymbrium altissimum</i>)	do	do	Good	do	do	Do.
Wild (<i>Brassica kaber</i>)	do	do	Excellent	do	Good	Do.
Wormseed (<i>Erysimum cheiranthoides</i>)	Annual ³	do	do	do		Do.
Nettle:						
Stinging (<i>Urtica dioica</i>)	Perennial	Good				
Tall (<i>U. procera</i>)	Annual	do			do	
Niggerhead (<i>Rudbeckia occidentalis</i>)	Perennial	do				

Susceptibility of common weeds to control by 2,4-D, MCPA, 2,4,5-T, silvex, and 2,4-DB—Continued

Plant name	Type of plant	Control ¹				
		2,4-D	MCPA	2,4,5-T ²	Silvex	2,4-DB
Pigweed:						
Prostrate (<i>Amaranthus gracizans</i>)	Annual	do	Excellent	Excellent	Excellent	Do.
Rough (<i>A. retrofractus</i>)	do	do	do	do	do	Do.
Tumble (<i>A. albus</i>)	do	do	do	do	do	Do.
Pineappleweed (<i>Matricaria matricarioides</i>)	do	Fair	Poor	None	Poor	None.
Plantain:						
Blackseed (<i>Plantago rugelii</i>)	Perennial	Excellent	Excellent	Excellent	Good	Excellent.
Broadleaf (<i>P. major</i>)	do	do	do	do	Excellent	Do.
Buckhorn (<i>P. lanceolata</i>)	do	do	Good	do	do	Do.
Poison-ivy (<i>Rhus radicans</i>)	Woody	Fair	Fair	do	do	None.
Poison-oak (<i>Rhus diversiloba</i>)	do	do	Poor	do	do	Do.
Pokeweed (<i>Phytolacca americana</i>)	Perennial	do	Fair	Good	Good	
Pondweed (<i>Potamogeton</i> spp.)	do	do	None	Poor	Poor	
Ponyfoot (<i>Dichondra repens</i>)	do	Excellent				
Poorjoe (<i>Diodia teres</i>)	Annual	Good	Fair	Good	Fair	Fair.
Poppy, Roemer (<i>Roemeria refracta</i>)	do	Excellent				
Prickly-ash, Northern (<i>Xanthoxylum amercanum</i>)	Woody	Poor		Fair		
Pricklypear (<i>Opuntia</i> spp.)	Perennial			do		
Prickly poppy (<i>Argemone intermedia</i>)	Annual	Excellent				
Purslane, common (<i>Portulaca oleracea</i>)	do	Fair	Fair	Excellent	Good	Good.
Puncturevine (<i>Tribulus terrestris</i>)	do	Good	do		Fair	Do.
Pusley, Florida (<i>Richardia scabra</i>)	do	Excellent				
Queensdelight (<i>Stillingia sylvatica</i>)	Perennial	None				
Rabbitbrush:						
Gray (<i>Chrysothamnus nauseosus</i>)	Woody	Fair	Poor	Poor	Poor	
Yellow (<i>C. viscidiflorus</i>)	do	do	do	do	do	
Radish, wild (<i>Raphanus raphanistrum</i>)	Annual	Excellent	Excellent	Excellent	Excellent	Excellent.
Ragweed:						
Common (<i>Ambrosia artemisiifolia</i>)	do	do	do	do	do	Do.
Giant (<i>A. trifida</i>)	do	do	do	do	do	Do.
Western (<i>A. psilostachya</i>)	Perennial	Good		do	do	Do.

Ragwort, tansy (<i>Senecio jacobaea</i>)	Perennial ³	do	Fair	Fair	Fair	Poor.
Rape, Bird (<i>Brassica rapa</i>)	Biennial	Excellent	Excellent	Excellent	Excellent	Excellent.
Raspberry (<i>Rubus</i> spp.)	Woody	Poor	Good	Good	Good	None.
Redbay (<i>Persea borbonia</i>)	do	do	do	do	Poor	
Redbud (<i>Cercis occidentalis</i>)	do	do	do	do	Poor	
Redvine (<i>Brunnichia cirrhosa</i>)	Perennial	None	None	None	Poor	Do.
Redstem (<i>Ammannia coccinea</i>)	Annual	Excellent	Excellent	Excellent	Excellent	Good.
Rose:						
California (<i>Rosa californica</i>)	Woody	None	Fair	Fair	Fair	
Cherokee (<i>R. laevigata</i>)	do	Fair	do	do	Excellent	
Macartney (<i>R. bracteata</i>)	do	do	None	None	Good	
Multiflora (<i>R. multiflora</i>)	do	Poor	do	Fair	Fair	
Prairie (<i>R. pratincola</i>)	do	Fair	do	Excellent	Fair	
Woods (<i>R. woodsi</i>)	do	None	do	Fair	None	None.
Rubberweed:						
Bitter (<i>Hymenoxys odorata</i>)	Annual	Excellent	Excellent	Excellent	Excellent	
Colorado (<i>H. richardsoni</i>)	Perennial	Good	Good	Fair	Fair	
Rue, African (<i>Peganum harmala</i>)	do	do	do	do	do	
Sage:						
Creeping (<i>Salvia sonomensis</i>)	do	Good	Fair	Good	do	Fair.
Purple (<i>S. leucophylla</i>)	do	do	do	do	do	
White (<i>S. apiana</i>)	Perennial	Good	do	do	do	
Sagebrush:						
Big (<i>Artemisia tridentata</i>)	Woody	do	Poor	Good	Fair	None.
California (<i>A. californica</i>)	do	Excellent	do	do	do	
Sand (<i>A. filifolia</i>)	do	do	Good	do	Good	Poor.
Salsify:						
Common (<i>Tragopogon porrifolius</i>)	Biennial	Good	do	do	do	
Meadow (<i>T. pratensis</i>)	do	do	do	do	do	
Saltcedar (<i>Tamarix gallica</i>)	Woody	Poor	None	None	Good	None.
Sedge, Umbrella (<i>Cyperus difformis</i>)	Annual	Fair	Fair	Poor	Poor	
Sesbania, coffeebean (<i>Sesbania exaltata</i>)	do	do	Good	Good	Excellent	Fair.
Sorrel (<i>Rumex acetosa</i>)	Perennial	Good	Fair	do	Fair	Do.
Heartwing (<i>R. hastatulus</i>)	do	Excellent	do	do	do	
Red (<i>R. acetosella</i>)	do	None	None	None	Poor	None.
Shepherdspurse (<i>Capsella bursa-pastoris</i>)	Annual	Good	Good	Excellent	Good	Good.
Sicklepod, coffeeweed (<i>Cassia tora</i>)	do	Excellent	Excellent	Excellent	Excellent	
Skunkcabbage (<i>Symplocarpus foetidus</i>)	Perennial	Good	Good	Good	Fair	
Smartweed:						
Ladysthumb (<i>Polygonum persicaria</i>)	Annual	do	Fair	do	Good	Do.

See footnotes at end of table.

Susceptibility of common weeds to control by 2,4-D, MCPA, 2,4,5-T, silver, and 2,4-DB—Continued

Plant name	Type of plant	Control ¹				
		2,4-D	MCPA	2,4,5-T ²	Silver	2,4-DB
Pennsylvania (<i>P. pennsylvanicum</i>)	do.	do.	do.	do.	Fair	Do.
Swamp (<i>P. coccineum</i>)	Perennial	Poor				
Snakeroot, white (<i>Eupatorium rugosum</i>)	do.			Fair	Poor	
Snakeweed:						
Broom (<i>Gutierrezia sarothrae</i>)	do.	do.	Fair	do.	do.	Poor.
Threadleaf (<i>G. microcephala</i>)	do.	Good		Good	Good	
Sneezeweed, bitter (<i>Helenium tenuifolium</i>)	Annual	Excellent	Excellent	Excellent	Excellent	Good.
Snow-on-the-mountain (<i>Euphorbia marginata</i>)	do.	Fair		Good		Fair.
Sowthistle:						
Annual (<i>Sonchus oleraceus</i>)	do.	Excellent	Excellent	Excellent		Excellent.
Perennial (<i>S. arvensis</i>)	Perennial	Fair	Fair	Fair	Fair	Fair.
Spiny (<i>S. asper</i>)	Annual	Excellent	Excellent	Excellent		Excellent.
Spanishneedles (<i>Bidens bipinnata</i>)	do.	do.	Excellent	do.	Excellent	
Speedwell:						
Common (<i>Veronica officinalis</i>)	Perennial	Poor	None	None	Poor	None.
Corn (<i>V. arvensis</i>)	Annual	do.	do.	do.	do.	Do.
Purslane (<i>V. peregrina</i>)	do.	Fair	do.	Fair		
Spikerush (<i>Eleocharis palustris</i>)	Perennial	do.	Fair	Poor	Poor	Poor.
Spurge:						
Flowering (<i>Euphorbia corollata</i>)	do.	Poor		Good		
Leafy (<i>E. esula</i>)	do.	do.	None	Poor	Fair	None.
Spotted (<i>E. maculata</i>)	Annual	do.		do.	Fair	
Spurry, corn (<i>Spergula arvensis</i>)	do.	do.	Fair	None	Fair	Do.
Squaw-berry (<i>Rhus trilobata</i>)	Woody	do.		Poor	Fair	None.
Starthistle, yellow (<i>Centaurea solstitialis</i>)	Annual	Fair				
Sticktight, European (<i>Lappula echinata</i>)	do.	Good				
Strawberry, wild (<i>Fragaria</i> spp.)	Perennial	Poor	None	Poor	Fair	Poor.
St. Johnswort (<i>Hypericum perforatum</i>)	do.	do.				Do.
Spotted (<i>H. punctatum</i>)	do.	Fair		Fair		
Sumpweed, rough (<i>Iva ciliata</i>)	Annual	Excellent				

Sunflower (<i>Helianthus annuus</i>)	do	do	do	Good	Excellent	Excellent	Excellent.
Sweetclover, annual yellow (<i>Melilotus indica</i>)	do	do	do	Excellent	do	Do.	
Tanoak (<i>Lithocarpus densiflora</i>)	Woody	do	Poor	do	Poor	Poor.	
Tansy (<i>Tanacetum vulgare</i>)	Perennial	do	Fair	do	Fair		
Tansymustard (<i>Descurainia pinnata</i>)	Annual	do	Excellent	do			
Thistle:							
Blessed (<i>Cnicus benedictus</i>)	do	do	do	do	do		
Blue (<i>Echium vulgare</i>)	Biennial	do	Fair	Fair	Fair	Excellent.	Excellent.
Bull (<i>Cirsium vulgare</i>)	do	do	Excellent	Excellent	Excellent		
Bristly (<i>C. horridulum</i>)	Perennial ³	do	Fair	do	do		
Canada (<i>C. arvense</i>)	Perennial	do	do	Fair	Fair	Fair.	Fair.
Russian (<i>Salsola kali</i>)	Annual	do	Good	Good	Good	Good.	Good.
Tickseed (<i>Coreopsis tinctoria</i>)	do	do	do	do	Excellent		
Toadflax:							
Blue (<i>Linaria canadensis</i>)	Perennial	do	Poor	do	do	None.	None.
Yellow (<i>L. vulgaris</i>)	do	do	None	do	do	Fair.	Fair.
Toyon (<i>Heteromeles arbutifolia</i>)	Woody	do	Good	Fair	do	Good	Poor.
Tree-of-heaven (<i>Ailanthus altissima</i>)	do	do	Fair	do	do	do	do
Trumpet creeper (<i>Campsis radicans</i>)	do	do	Poor	do	do	Excellent	None.
Velvet-leaf (<i>Abutilon theophrasti</i>)	Annual	do	Excellent	do	do	Good	Excellent.
Vervain:							
Blue (<i>Verbena hastata</i>)	Perennial	do	do	do	do		
Hoary (<i>V. stricta</i>)	do	do	Good	do	do		
Prostrate (<i>V. bracteata</i>)	do	do	Excellent	do	do		
Roadside (<i>V. bonariensis</i>)	do	do	Good	do	do		
Vetch:							
Narrowleaf (<i>Vicia angustifolia</i>)	Annual	do	Excellent	Fair	Excellent	Excellent.	
Milk (<i>Astragalus</i> spp.)	Perennial	do	Good	do	do	Excellent	
Two grooved (<i>A. bisulcatus</i>)	do	do	Excellent	do	do	Excellent	Excellent.
Wild (<i>Vicia</i> spp.)	Annual	do	do	do	do	Good	
Violet (<i>Viola</i> spp.)	Perennial	do	Poor	do	do	do	
Walnut, black (<i>Juglans nigra</i>)	Woody	do	Excellent	do	do	do	
Waterhemp, spotted (<i>Cicula maculata</i>)	Perennial	do	Good	do	do	do	
Water-hyacinth (<i>Eichhornia crassipes</i>)	do	do	do	do	do	do	
Waterplantain (<i>Alisma triviale</i>)	do	do	do	do	do	do	
Waterweed, Canada (<i>Elodea canadensis</i>)	do	do	do	do	do	do	
Willow (<i>Salix</i> spp.)	do	do	Fair	do	do	do	
Witchweed (<i>Striga asiatica</i>)	Woody	do	Good	do	do	do	
Woodsorrel, yellow (<i>Oralis stricta</i>)	Annual	do	Excellent	do	do	do	
	Perennial	do	Poor	do	do	do	

See footnotes at end of table.

Susceptibility of common weeds to control by 2,4-D, MCPA, 2,4,5-T, silver, and 2,4-DB

Plant name	Type of plant	Control ¹				
		2,4-D	MCPA	2,4,5-T ²	Silver	2,4-DB
Wormwood, annual (<i>Artemisia annua</i>)	Annual	Good	Fair	Good		
Yankee-weed (<i>Eupatorium compositifolium</i>)	Perennial	Fair		Fair		
Yarrow:						
Common (<i>Achillea millefolium</i>)	do	Poor	Poor	Poor	Poor	None.
Western (<i>A. lanulosa</i>)	do	Fair		Fair		Do.
Yellow-rocket (<i>Barbarea vulgaris</i>)	Perennial ³	Good	Good	Good	Fair	Fair.
Yerba-santa (<i>Eriodictyon californicum</i>)	Woody	Excellent	do	do	do	None.
Yucca; soapweed (<i>Yucca glauca</i>)	Perennial	None		Poor	do	

¹ For explanation of control ratings, see "Susceptibility Chart," page 10.

² See limitation on use of 2,4,5-T on inside cover.

³ Sometimes biennial.

COMMON AND CHEMICAL NAMES OF PHENOXY HERBICIDES

<i>Common name</i>	<i>Chemical name</i>
2,4-D -----	(2,4-dichlorophenoxy) acetic acid
2,4,5-T -----	(2,4,5-trichlorophenoxy) acetic acid
Silvex -----	2- (2,4,5-trichlorophenoxy) propionic acid
MCPA -----	[(4-chloro- <i>o</i> -tolyl) oxy] acetic acid
2,4-DB -----	4- (2,4-dichlorophenoxy) butyric acid

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